

Retrieving Data from Mailbox

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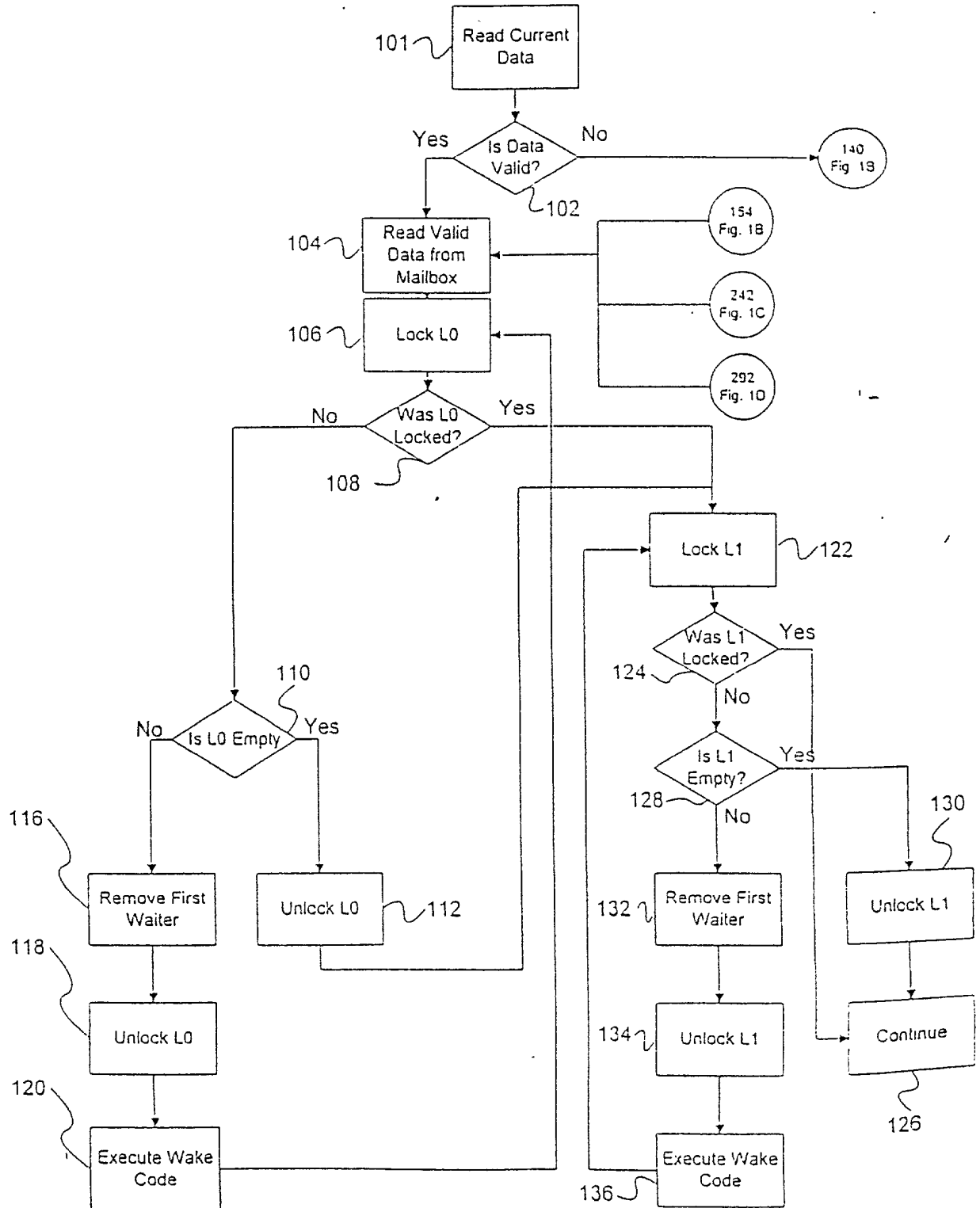


Fig. 1A

Reading Data from Mailbox

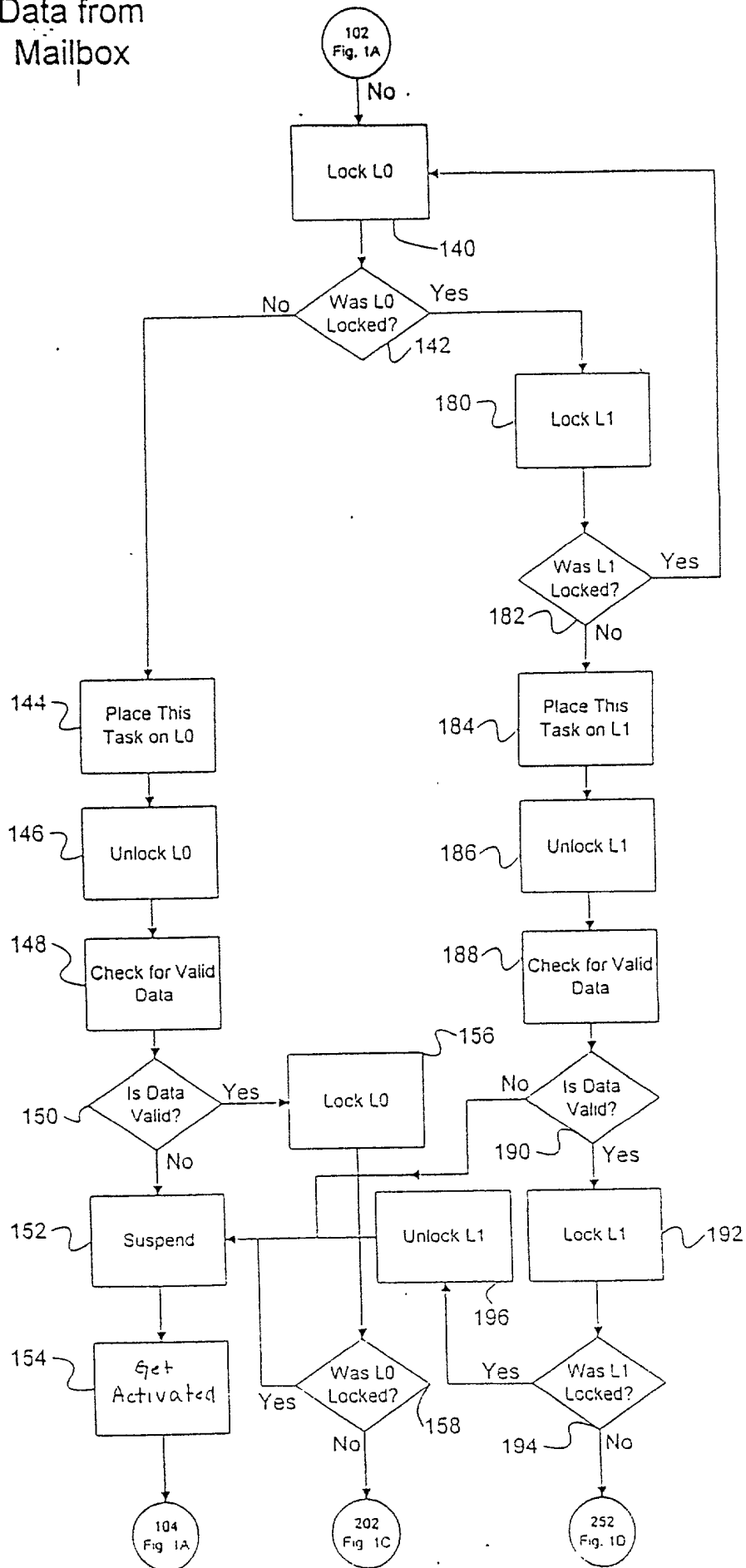


Fig. 1B

Reading Data from Mailbox

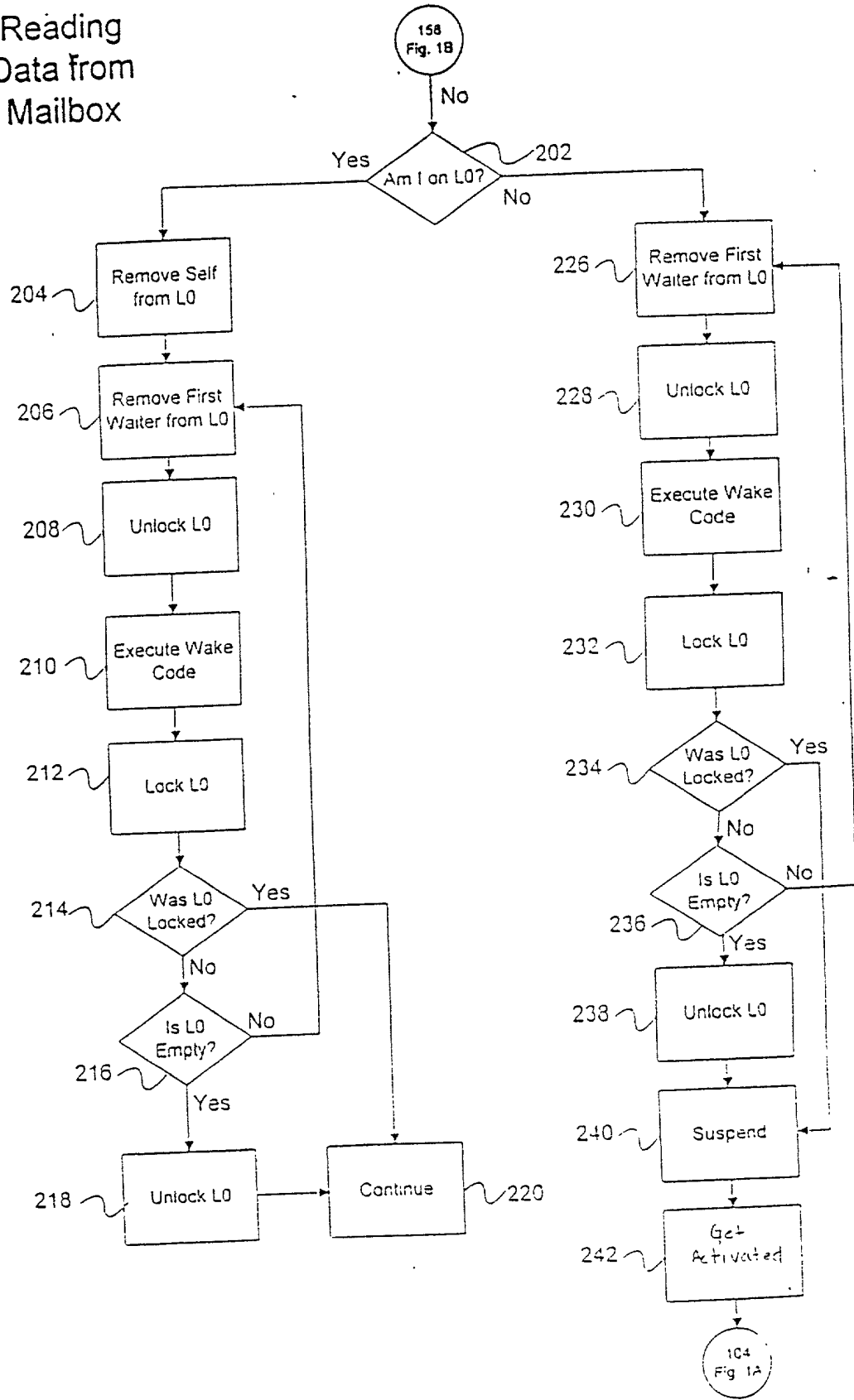


Fig. 1C

Reading
Data from
Mailbox

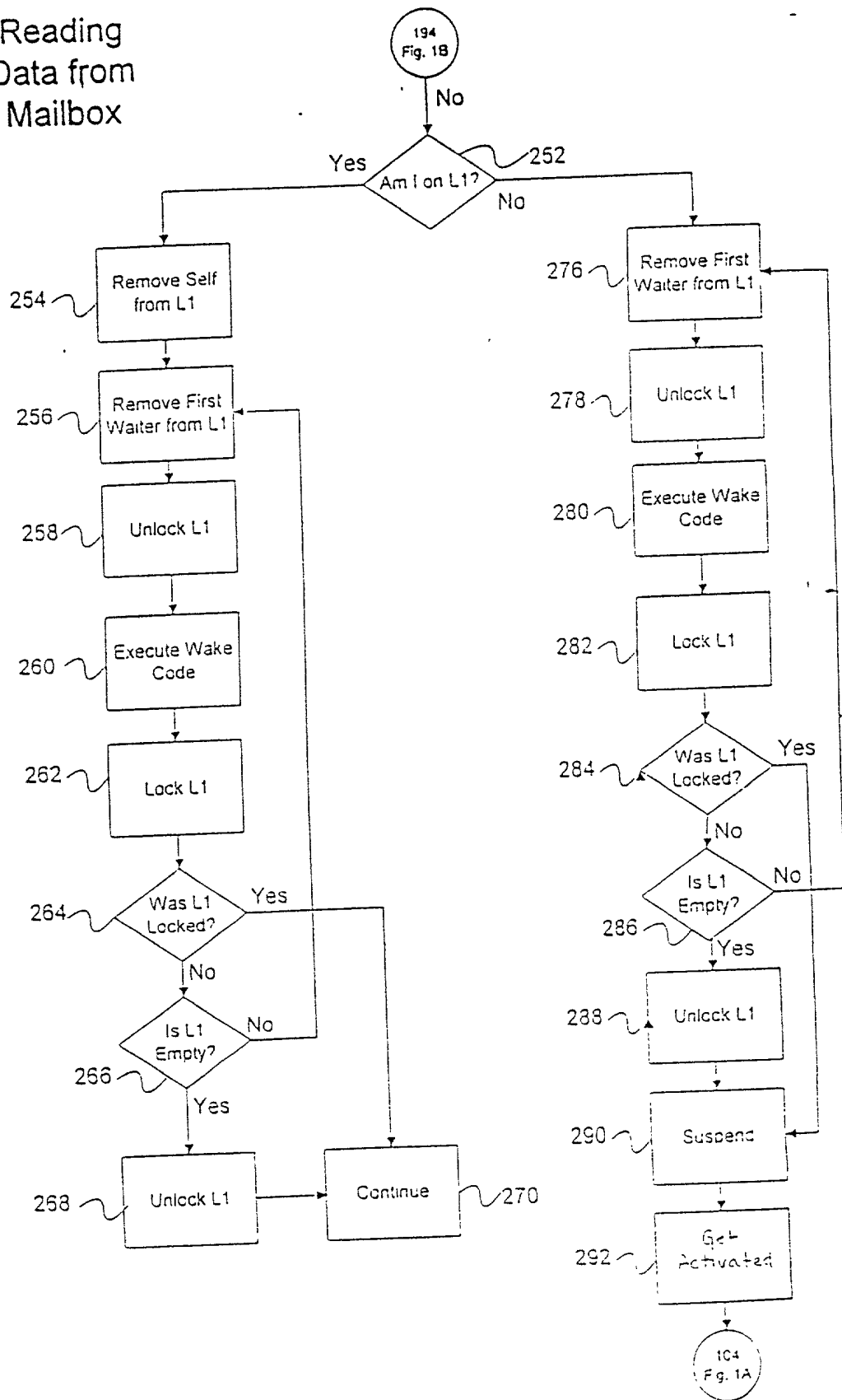


Fig. 1D

Placing Data in Mailbox

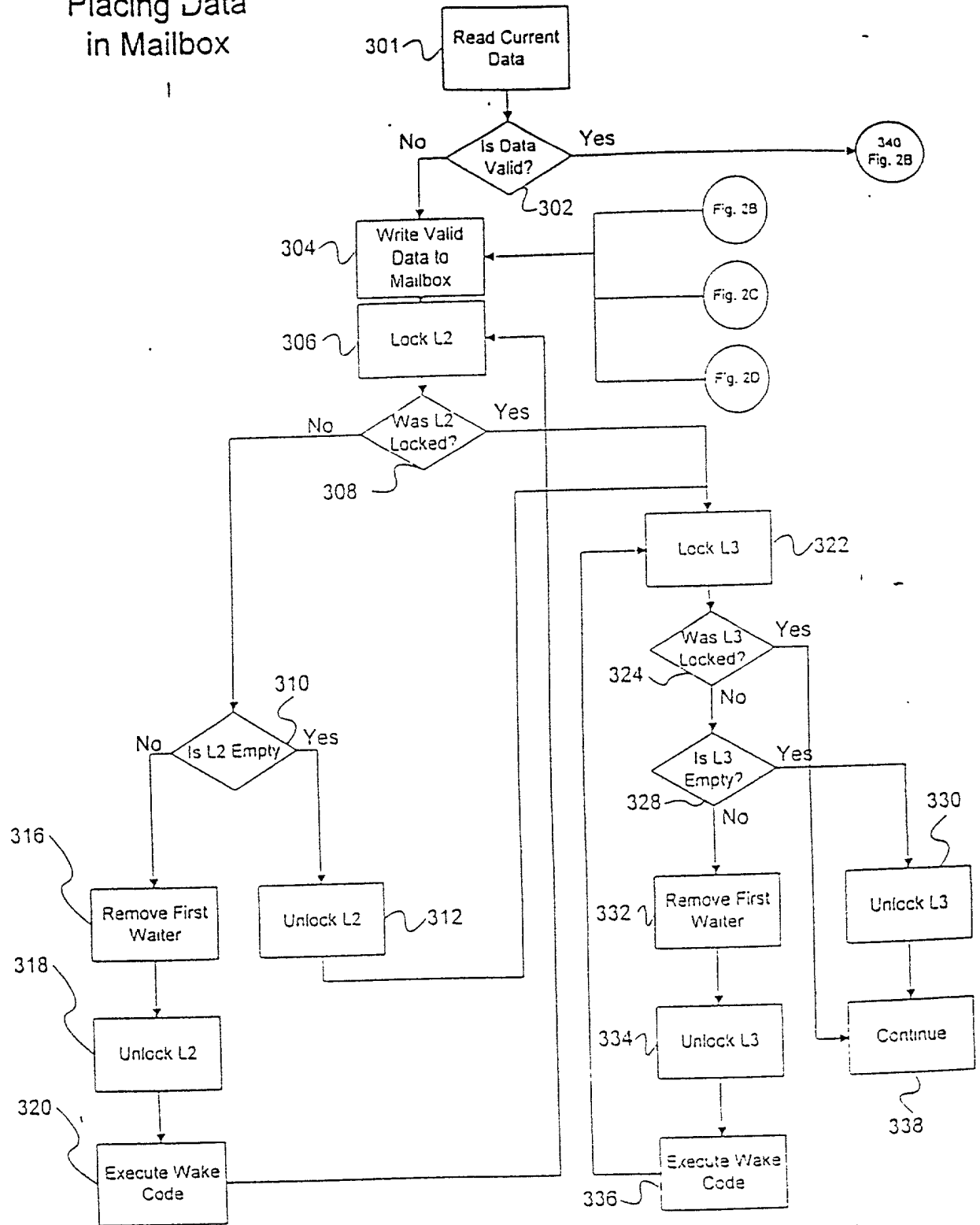


Fig. 2A

Placing Data in Mailbox

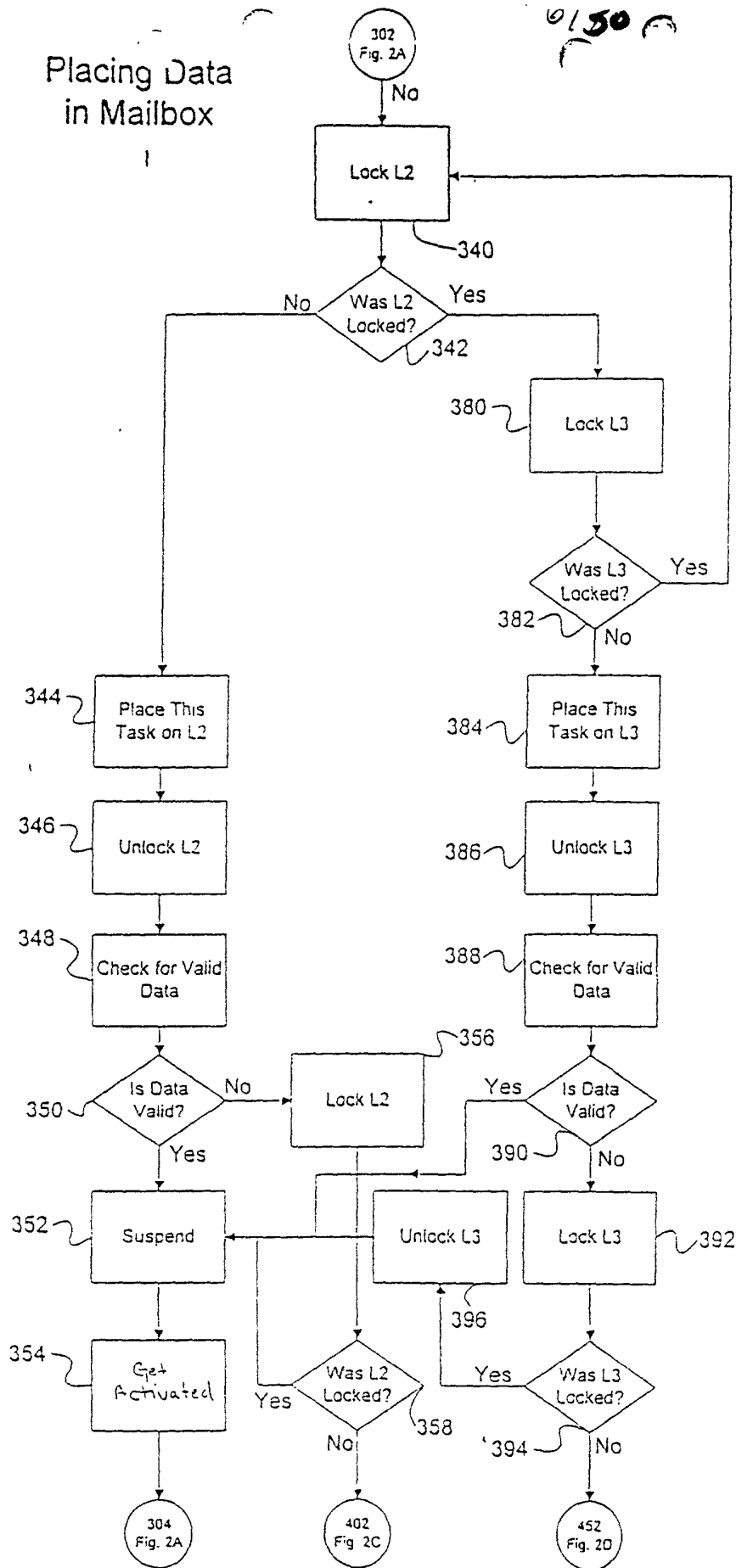


Fig. 2B

Placing Data in Mailbox

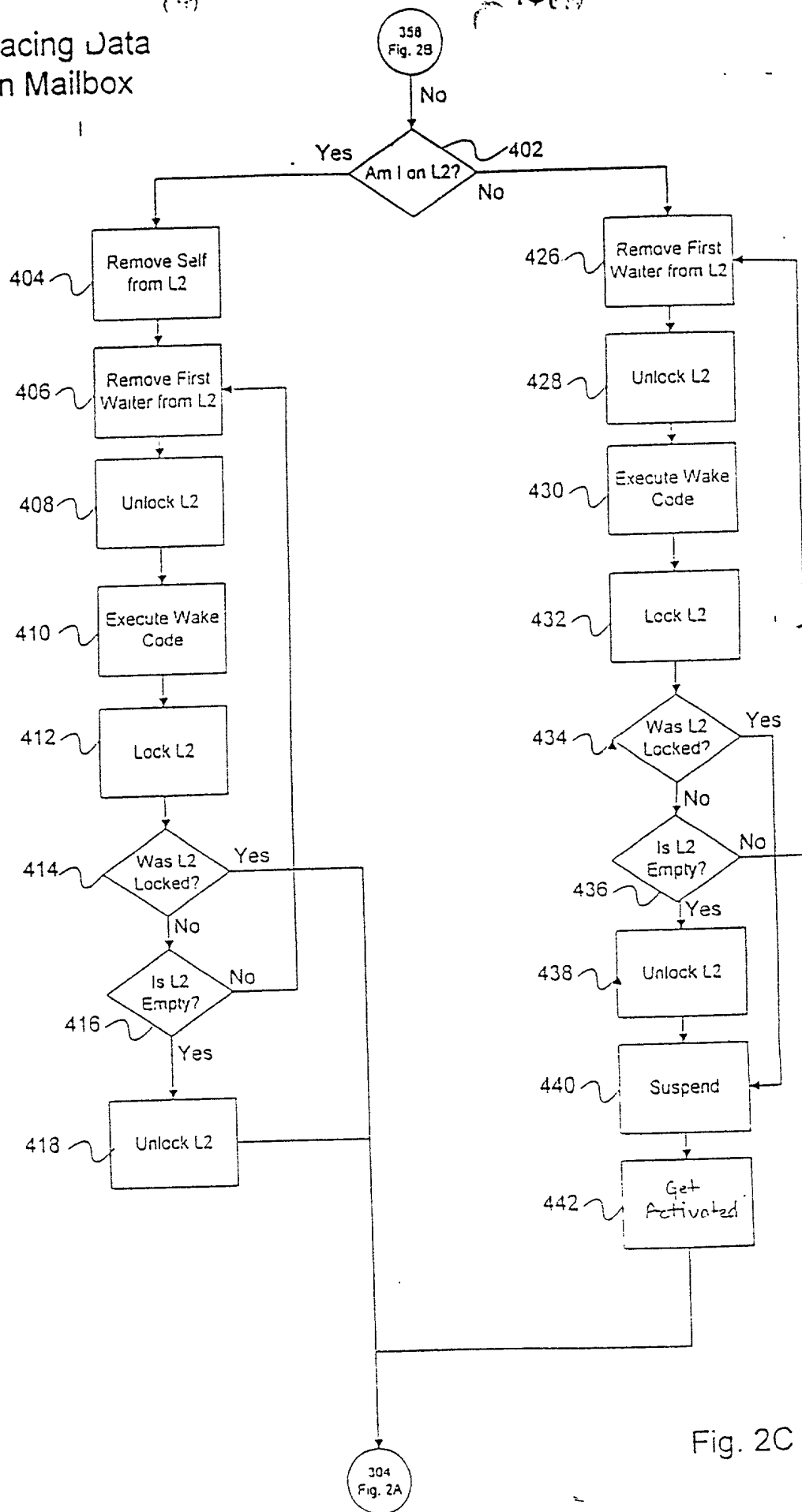


Fig. 2C

Placing Data in Mailbox

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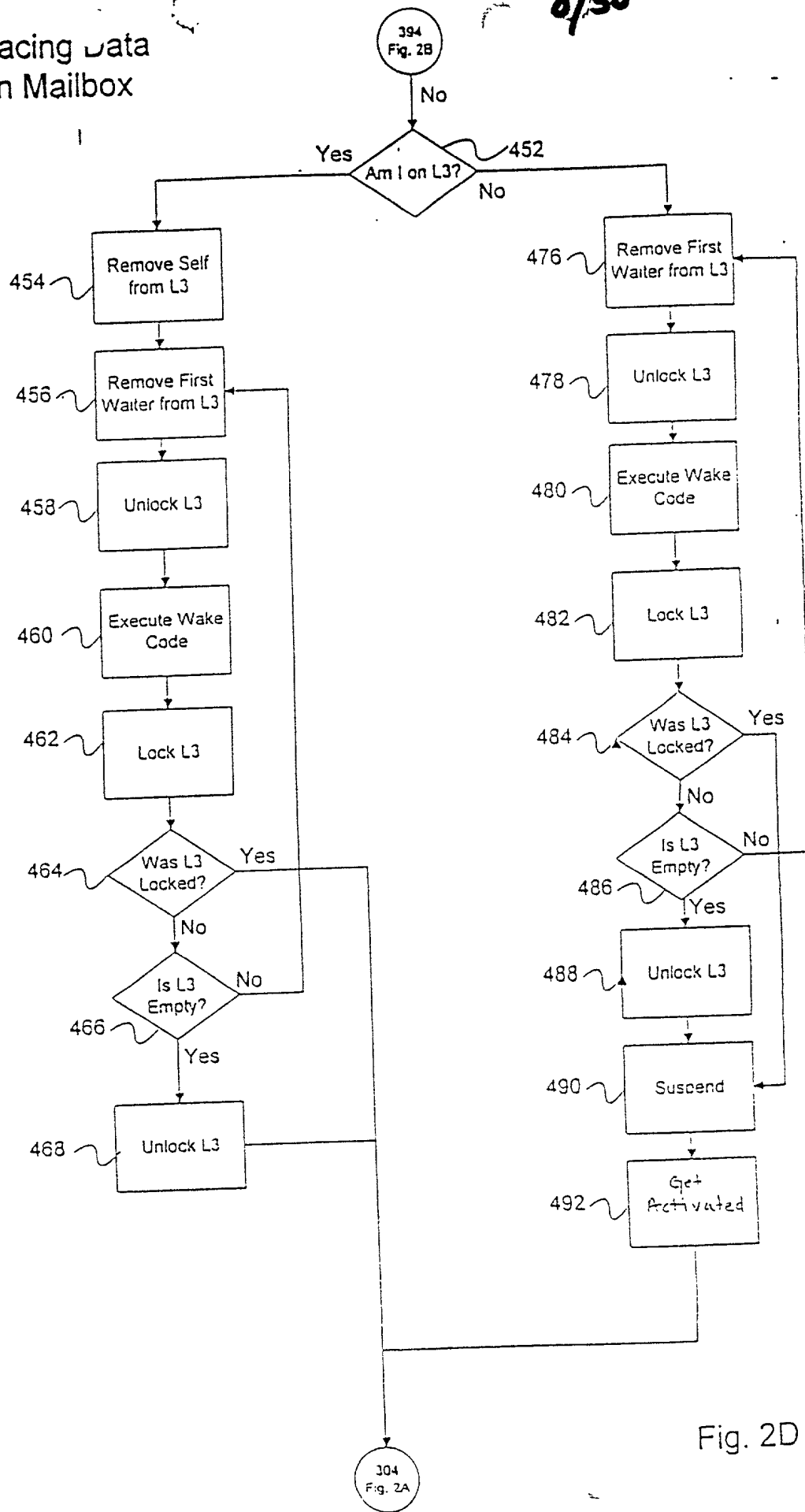
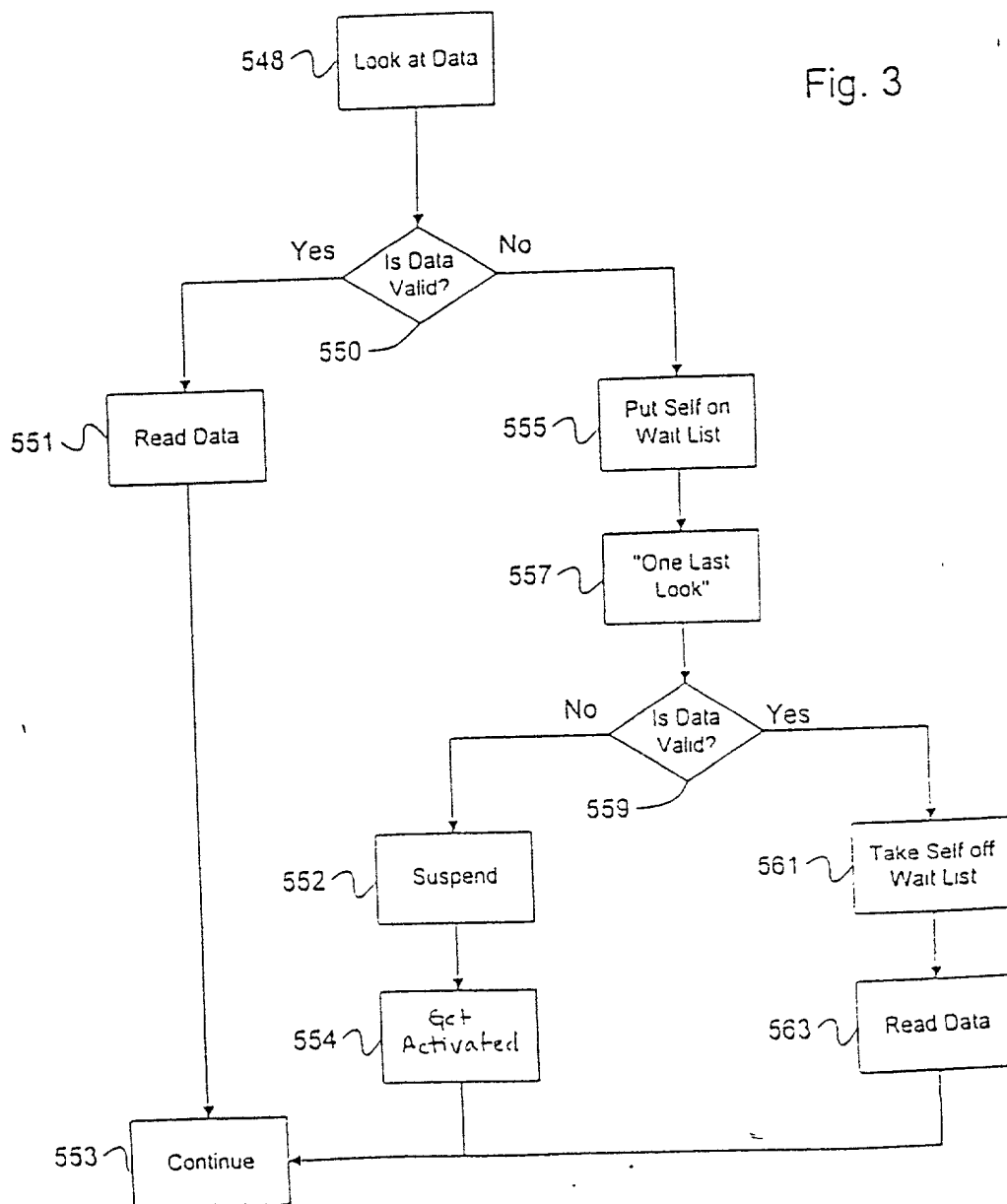


Fig. 2D

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Fig. 3



Variable	Mean	SD	Min	Max
Age	34.5	10.2	21	55
Gender	Male	Female	Male	Female
Marital status	Married	Single	Married	Single
Education	High school	College	High school	College
Occupation	Manager	Worker	Manager	Worker
Income	Low	High	Low	High
Health status	Good	Poor	Good	Poor
Stress level	Low	High	Low	High
Life satisfaction	High	Low	High	Low
Resilience	High	Low	High	Low
Optimism	High	Low	High	Low
Self-efficacy	High	Low	High	Low
Perceived stress	Low	High	Low	High
Depression	Low	High	Low	High
Anxiety	Low	High	Low	High
Quality of life	High	Low	High	Low
Physical health	Good	Poor	Good	Poor
Mental health	Good	Poor	Good	Poor
Social support	High	Low	High	Low
Life events	Low	High	Low	High
Personal growth	High	Low	High	Low
Meaning in life	High	Low	High	Low
Existential well-being	High	Low	High	Low
Psychological well-being	High	Low	High	Low
Life satisfaction	High	Low	High	Low
Overall health	Good	Poor	Good	Poor

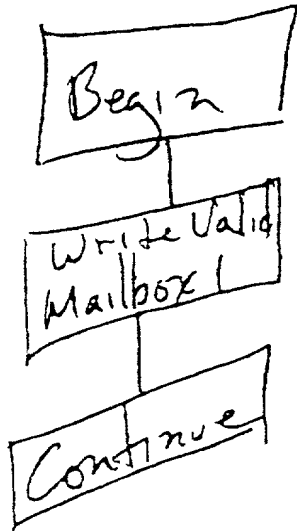


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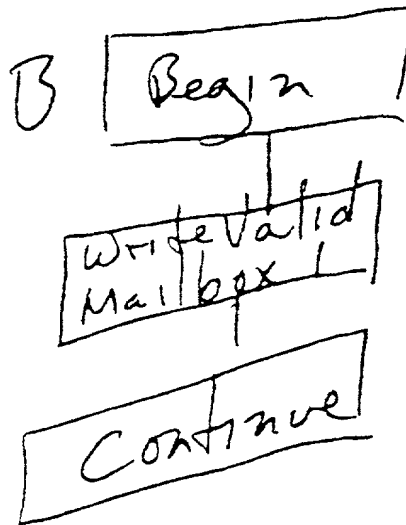
O R

~~to be (1/2/2020)~~

A



B



A or B

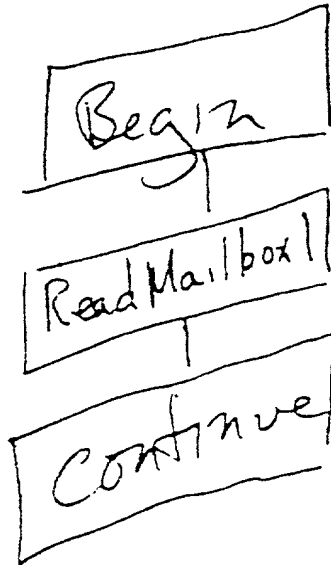


FIG 6

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Continuation 2,3

Possible Memory Organization

Row Pointer
Column Pointer

CELL

NEIGHBOR PTR
NEIGHBOR PTR
!
NEIGHBOR PTR
^{EVEN} LIST COUNTER
^{EVEN} LIST
^{ODD} LIST COUNTER
^{ODD} LIST
TICK COUNTER
+2 LIST COUNTER
+3 LIST COUNTER
+2 LIST
+3 LIST

object

Value
Multilist
Code, Ptr
Location Ptr

object = 532220

Fig 8

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Cont. 2

Cell Behavior

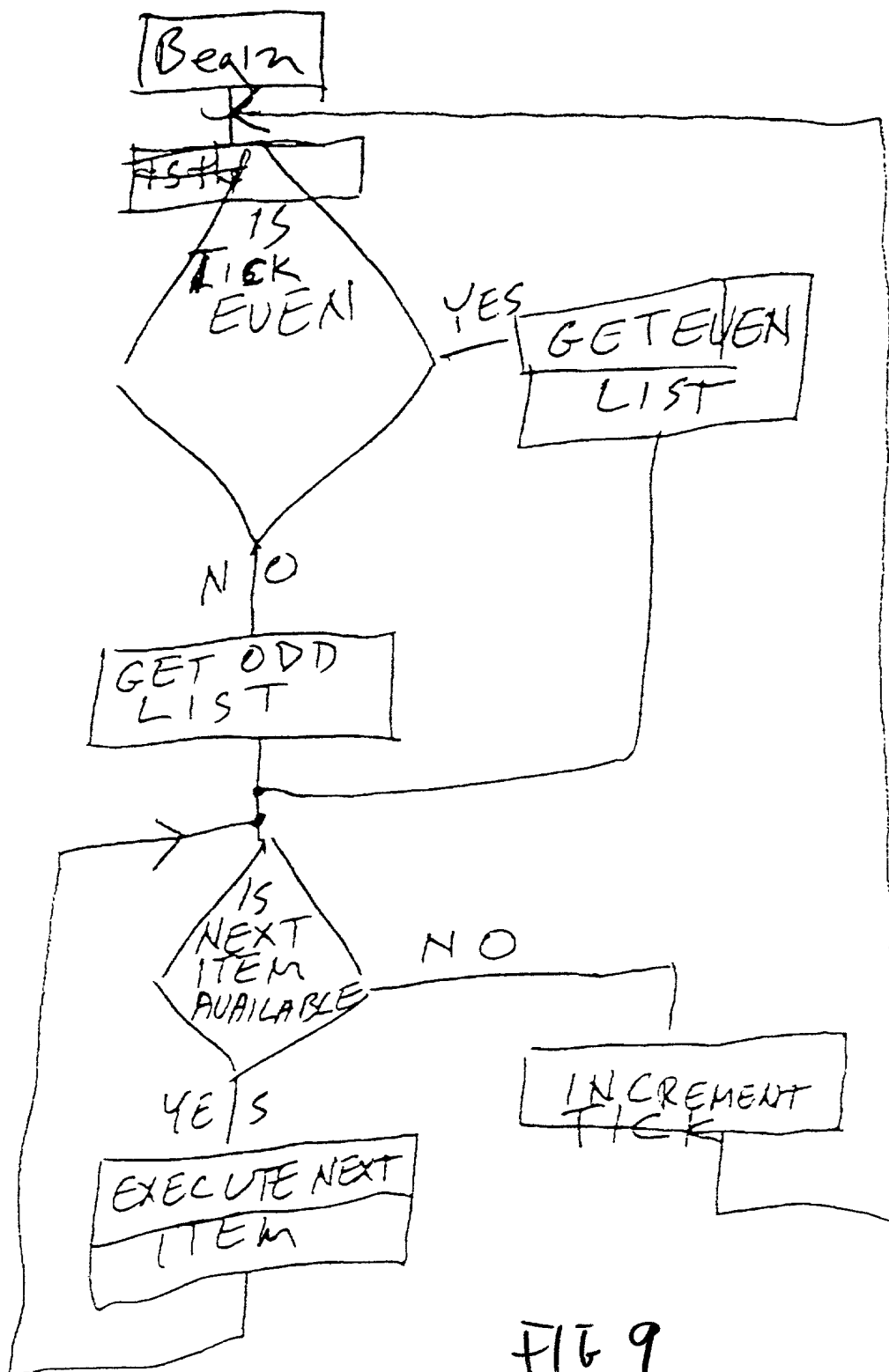


FIG 9

cont. 2

Object Behavior

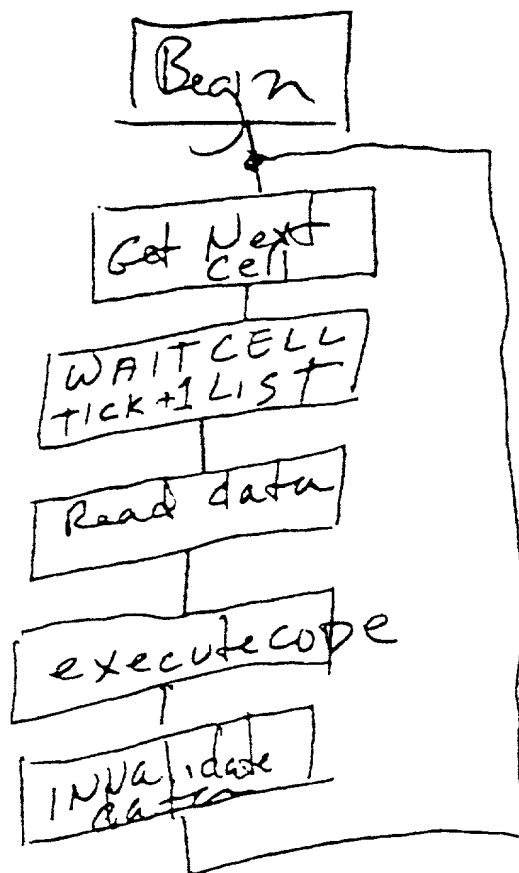
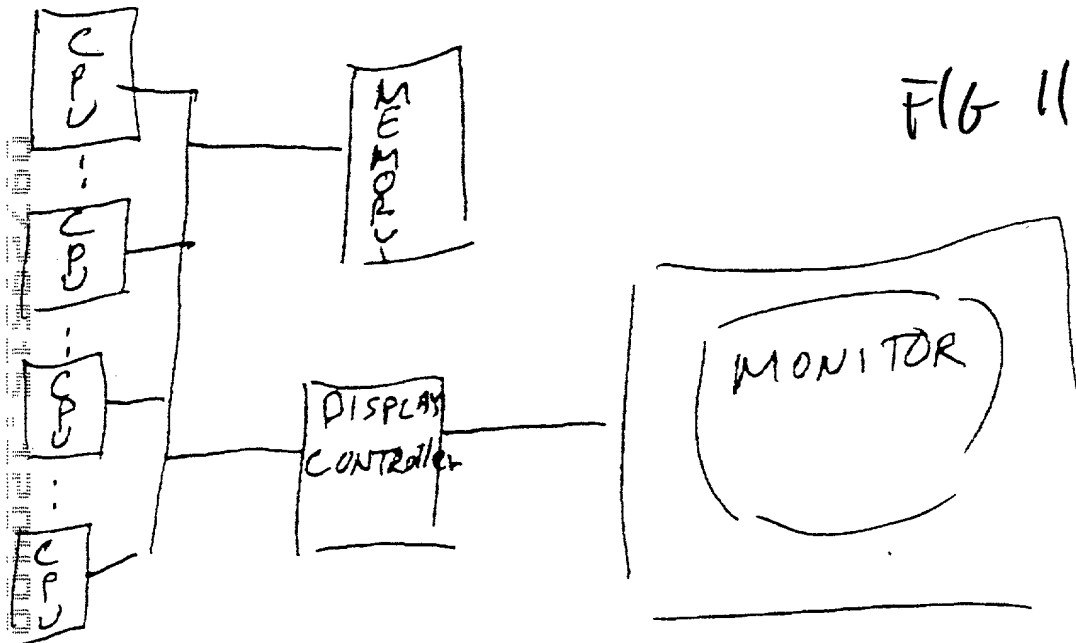


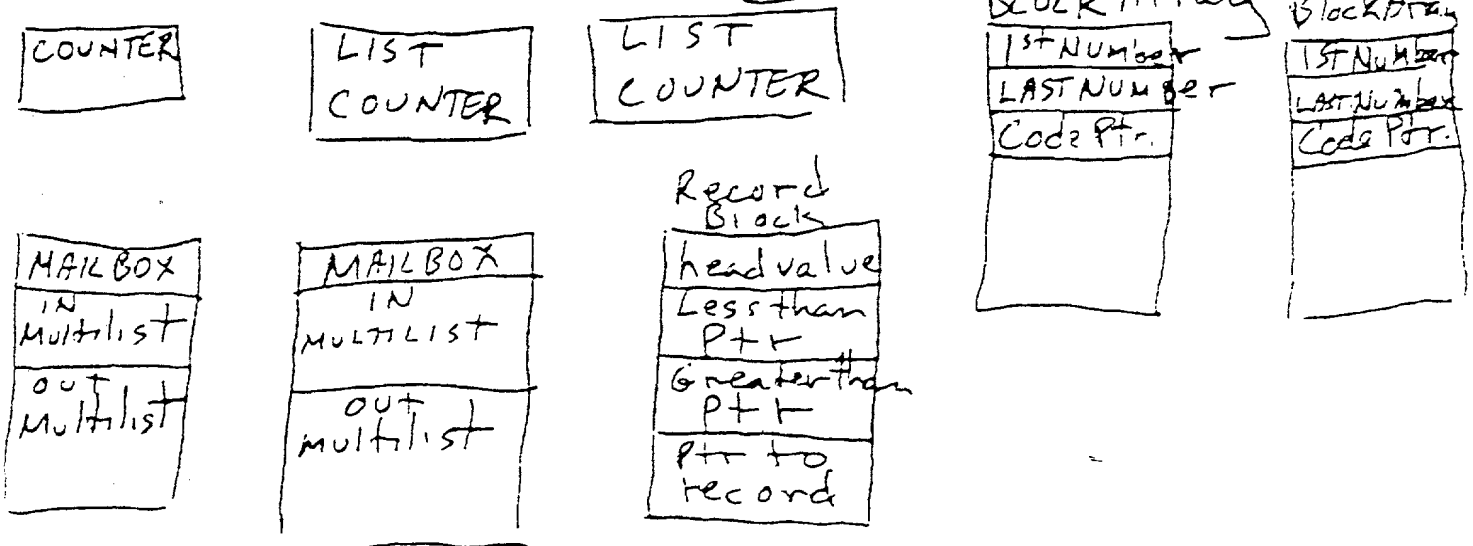
FIG 10

Lock Free Record^{17/30} Management

Possible Physical Hardware



Possible Memory Organization



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Writing a Record

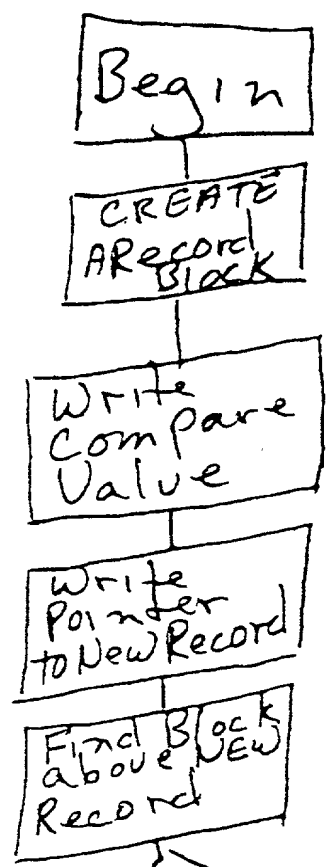
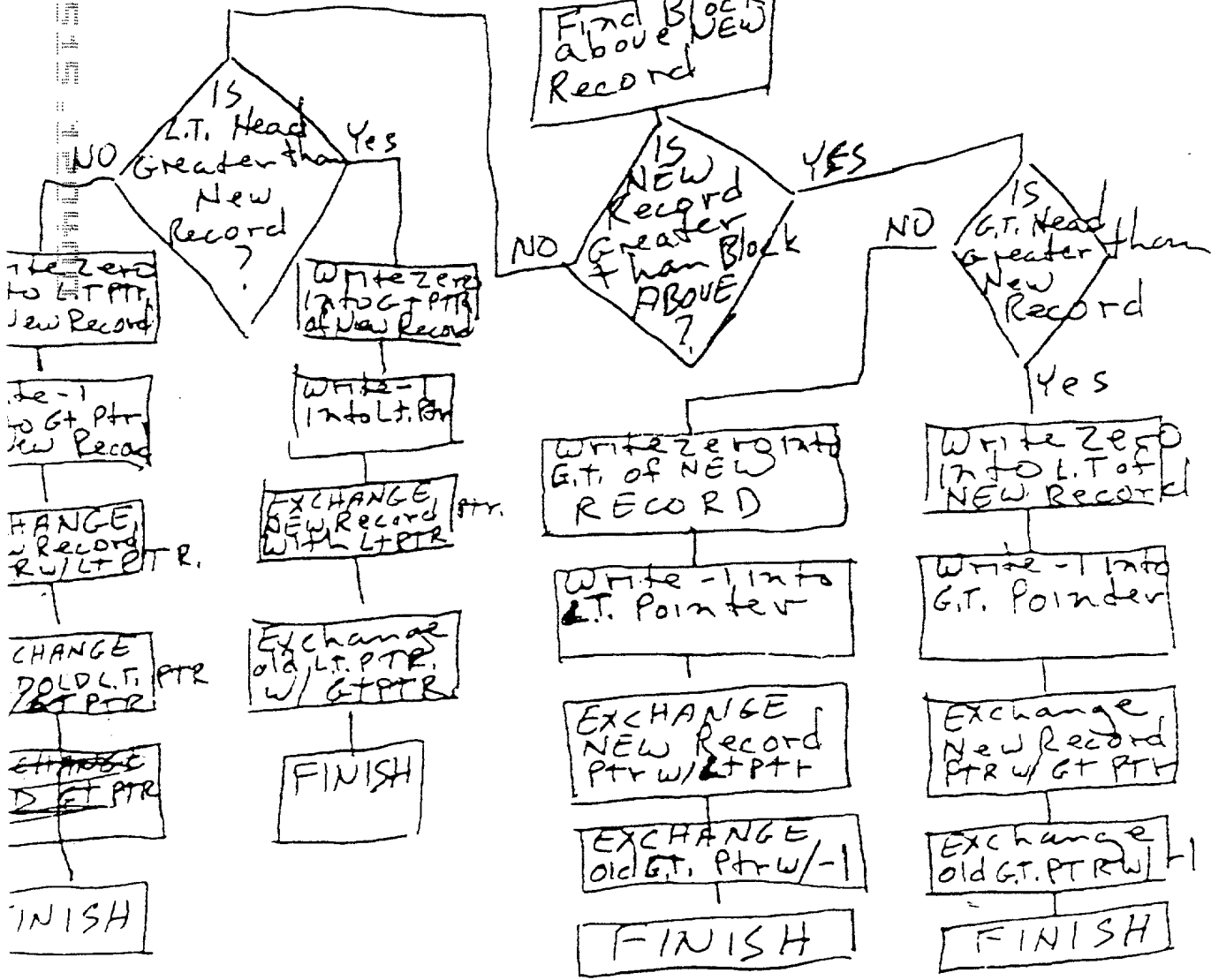
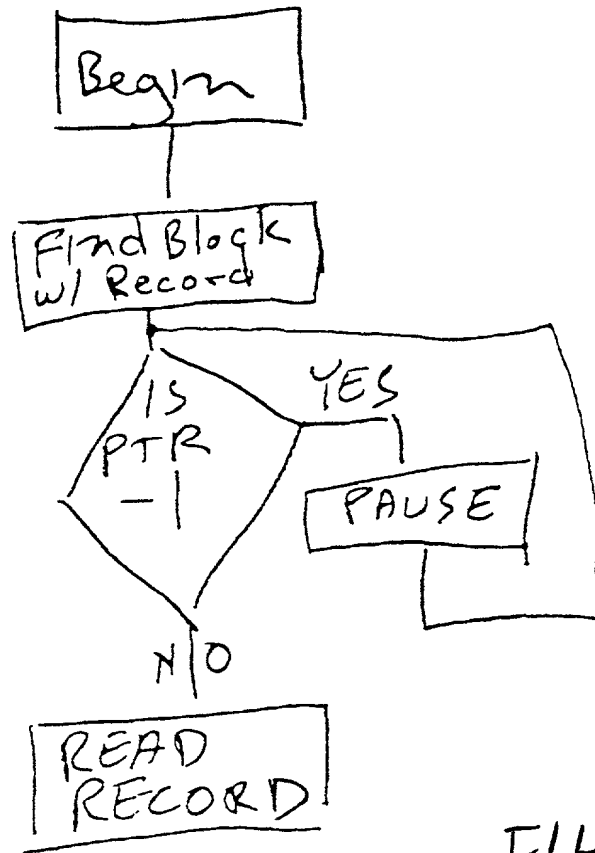


FIG 12



Reading a Record ^{19/30}



File 13

Adding to a Value in a Record ^{20/30}

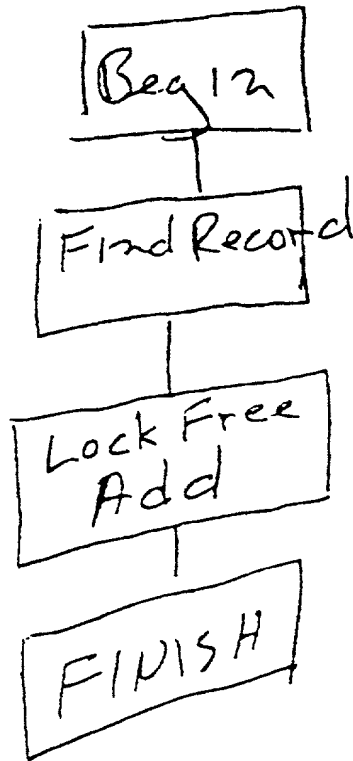


FIG 14

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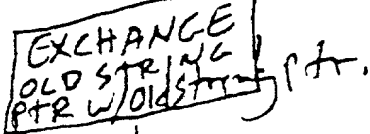


FIG 15

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PERFORMING MULTIPLE OPERATIONS

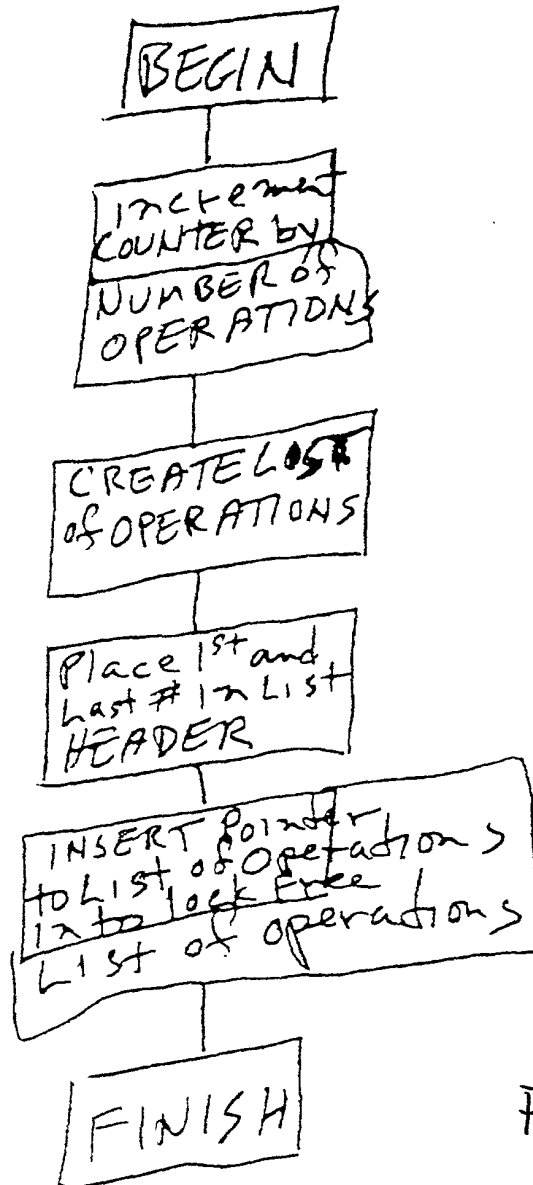
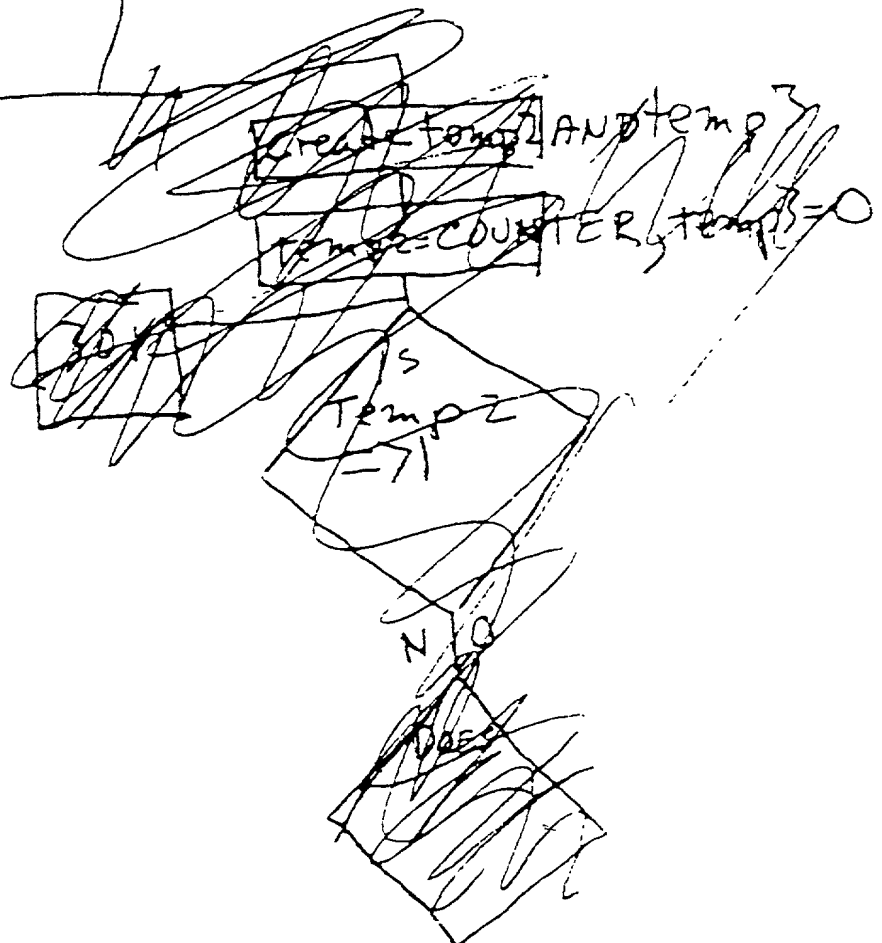
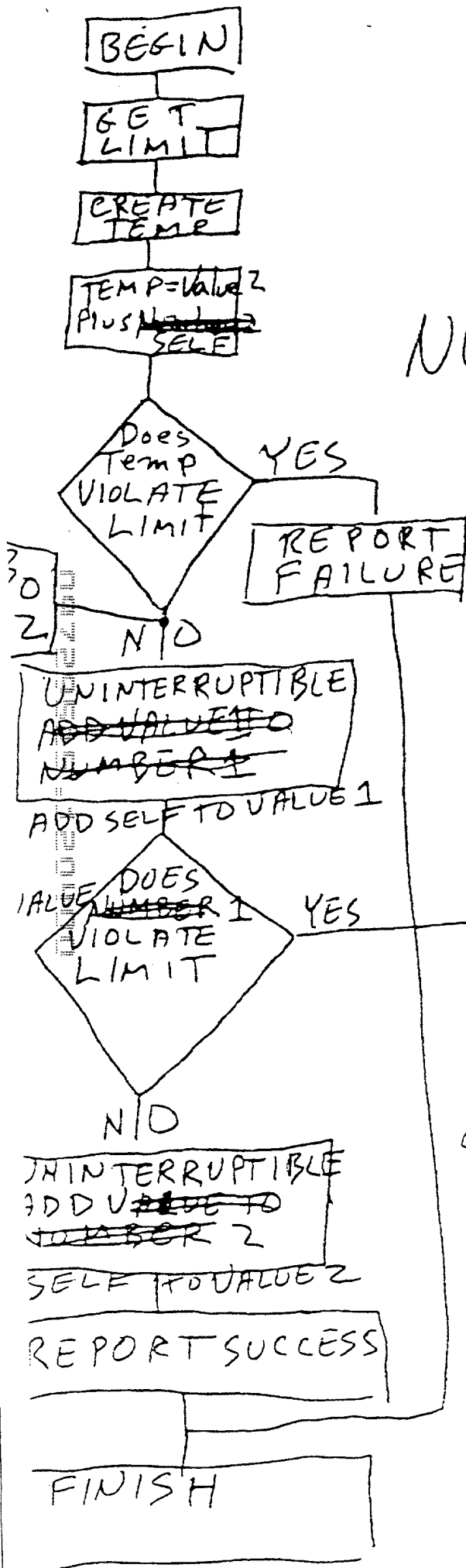


FIG 16

ADDING A NUMBER

FIG 17



UNINTERRUPTIBLE INCREMENT COUNTER

PLACE SELF ON LIST
WHERE COUNTER INDICATES

MARK SELF NOT FAILED

SUBTRACT SELF FROM
VALUE 1

PAUSE

CHANGE SELF TO ZERO

~~CHECK TO~~

~~REPORT FAILURE~~

YES

MARKED
FAILED
?

NC

FINISH

302

CREATE TEMP2, TEMP3

~~Temp2 = 0~~ temp2 = 0

~~6-17-80~~



15
temp
COUNTER = temp2

YES

210

Get LIST ELEMENT
REFERRED TO BY
TEMP 2

INCREMENT
TEMP 2

CAN
LIST ELEMENT
BE ADDED TO
TEMP3 PLUS NUMBER2
WITHOUT
VIOLATING
LIMIT

Yes


ADDTOTEMP3

CAN
VALUE
BE ADDED YES
TO TEMP 3
PLUS NUMBER 2
WITHOUT
VIOLATING
LIMIT

$$\frac{z}{0}$$

Subtract
From NUMBER1
(UNINTERRUPTIBLE)

REPORT FAILURE



MARK AS
FAILED

[illegible]

FL619

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Device for Non-Blocking List MANAGEMENT

POSSIBLE HARDWARE

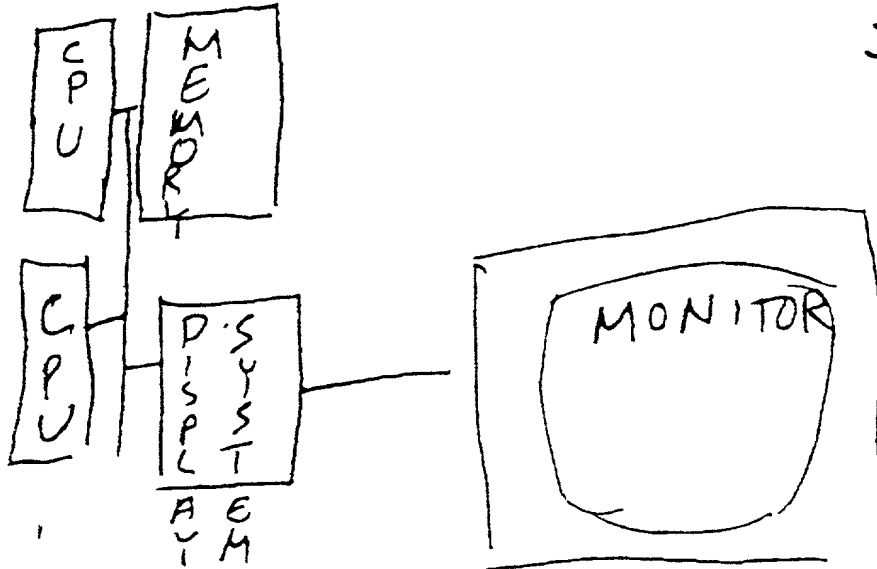


FIG 20



POSSIBLE MEMORY ORGANIZATION

MASTER
POINTER

POINTER 1

POINTER 2

POINTER 3

POINTER 4

COUNTER 1

COUNTER 2

COUNTER 3

COUNTER 4

SEMAPHORE 1

SEMAPHORE 2

SEMAPHORE 3

SEMAPHORE 4

BLOCK 1

BLOCK 2

BLOCK 3

BLOCK 4

POINTER
LIST

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REMOVE ITEM FROM LIST

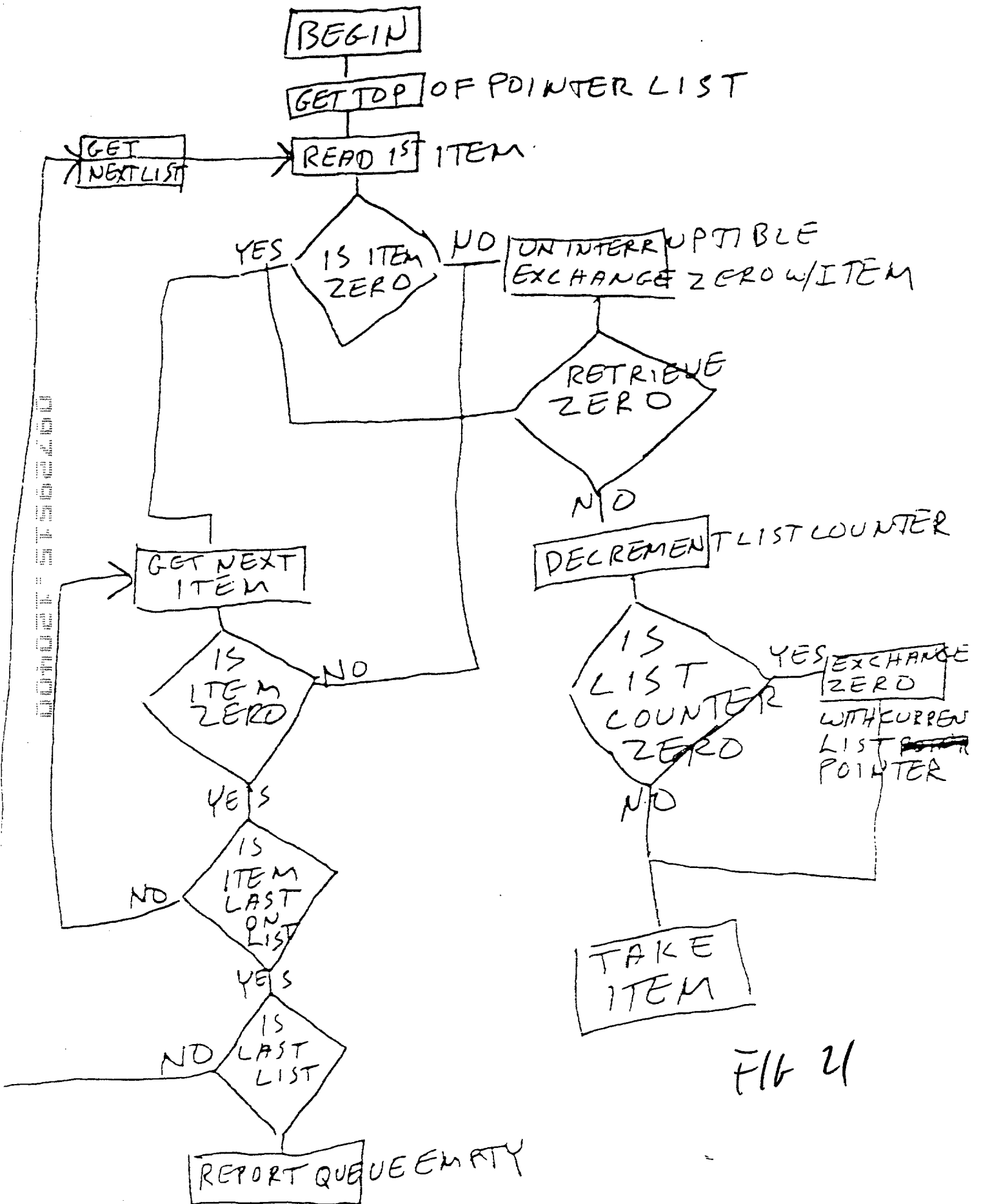


FIG 21

PLACE ITEM ON LIST

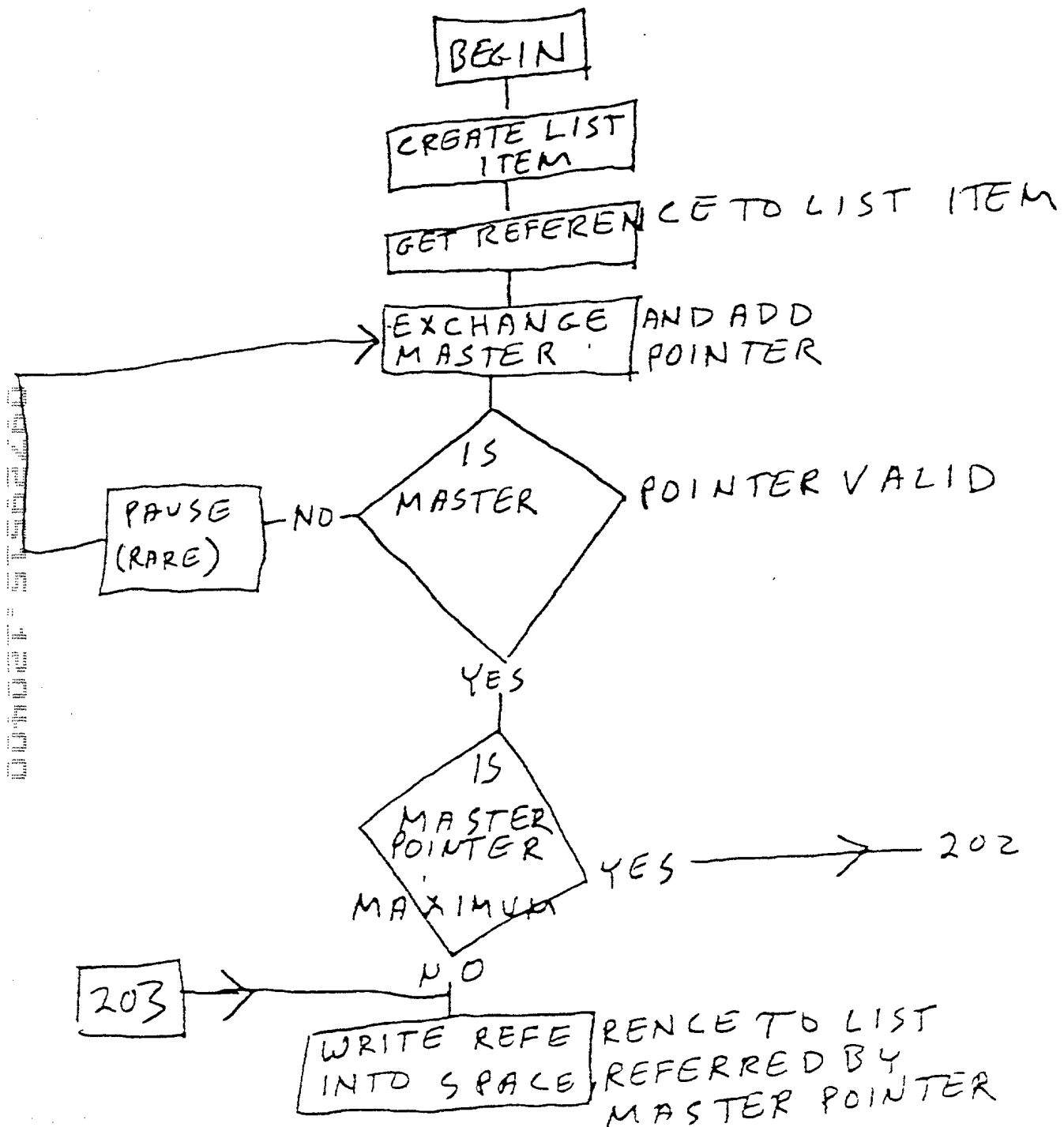
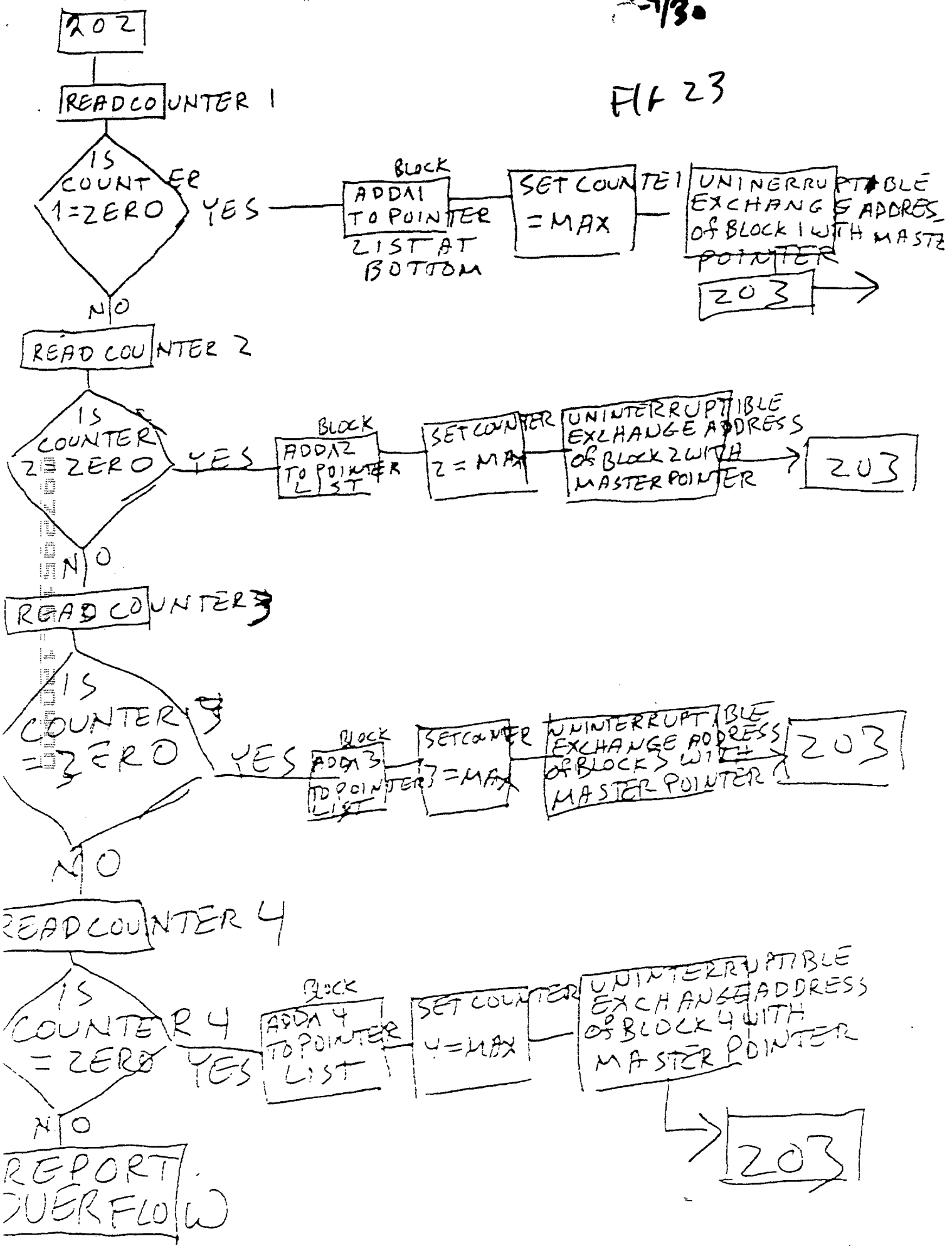


FIG 22

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Flt 23



INITIALIZE LIST

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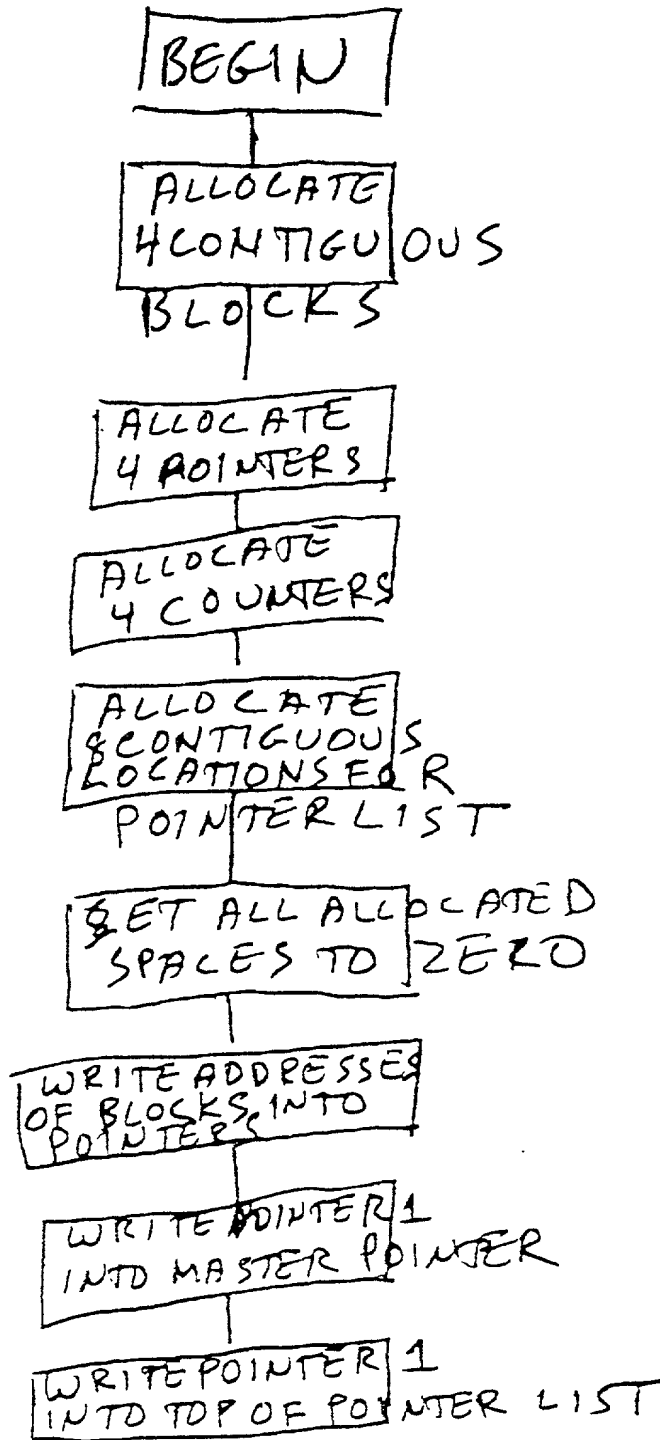


Fig 24

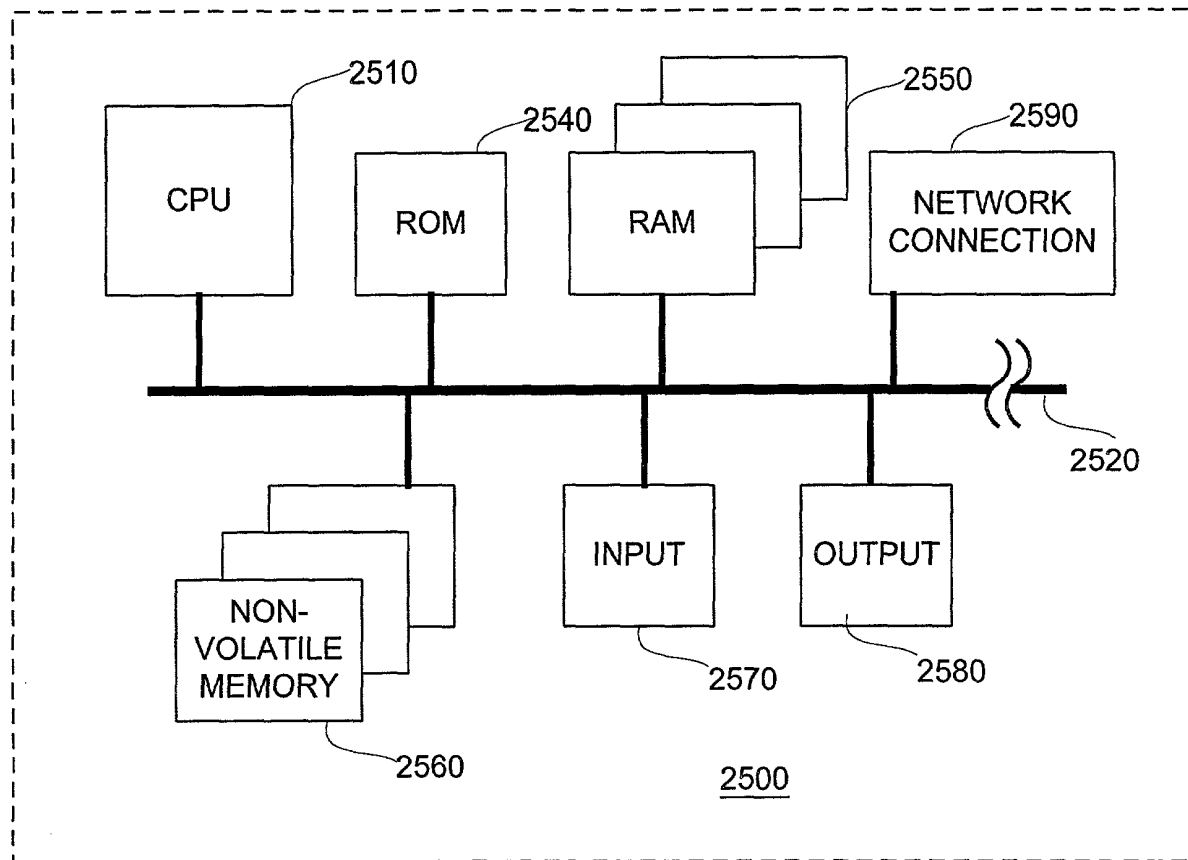


FIG. 25

Prior Art

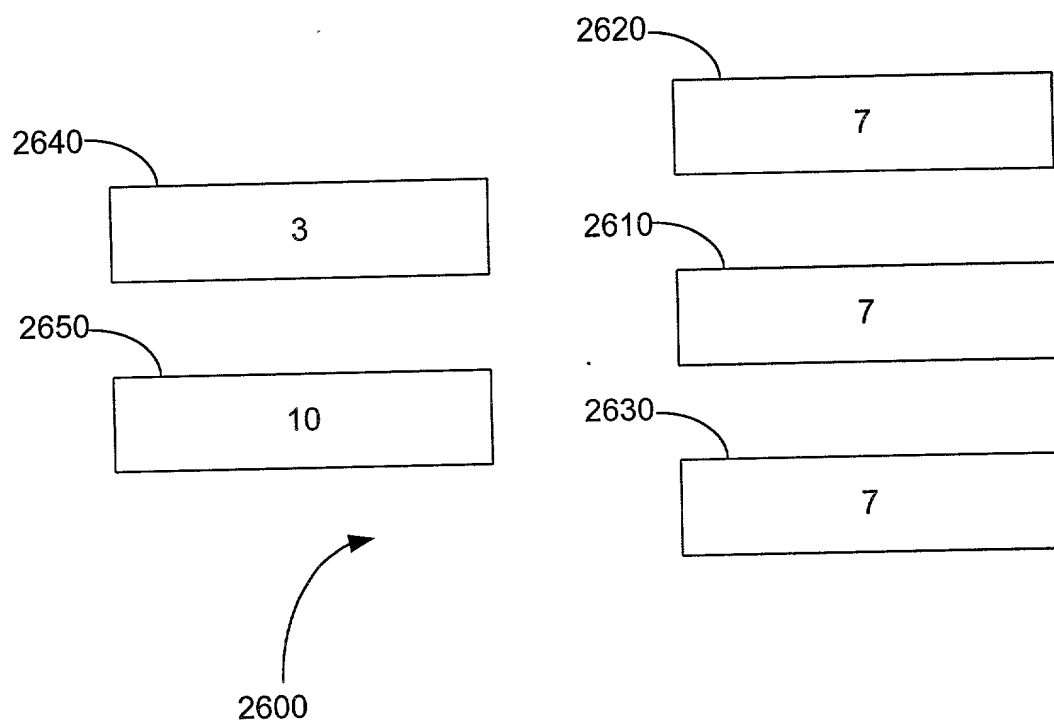


FIG. 26

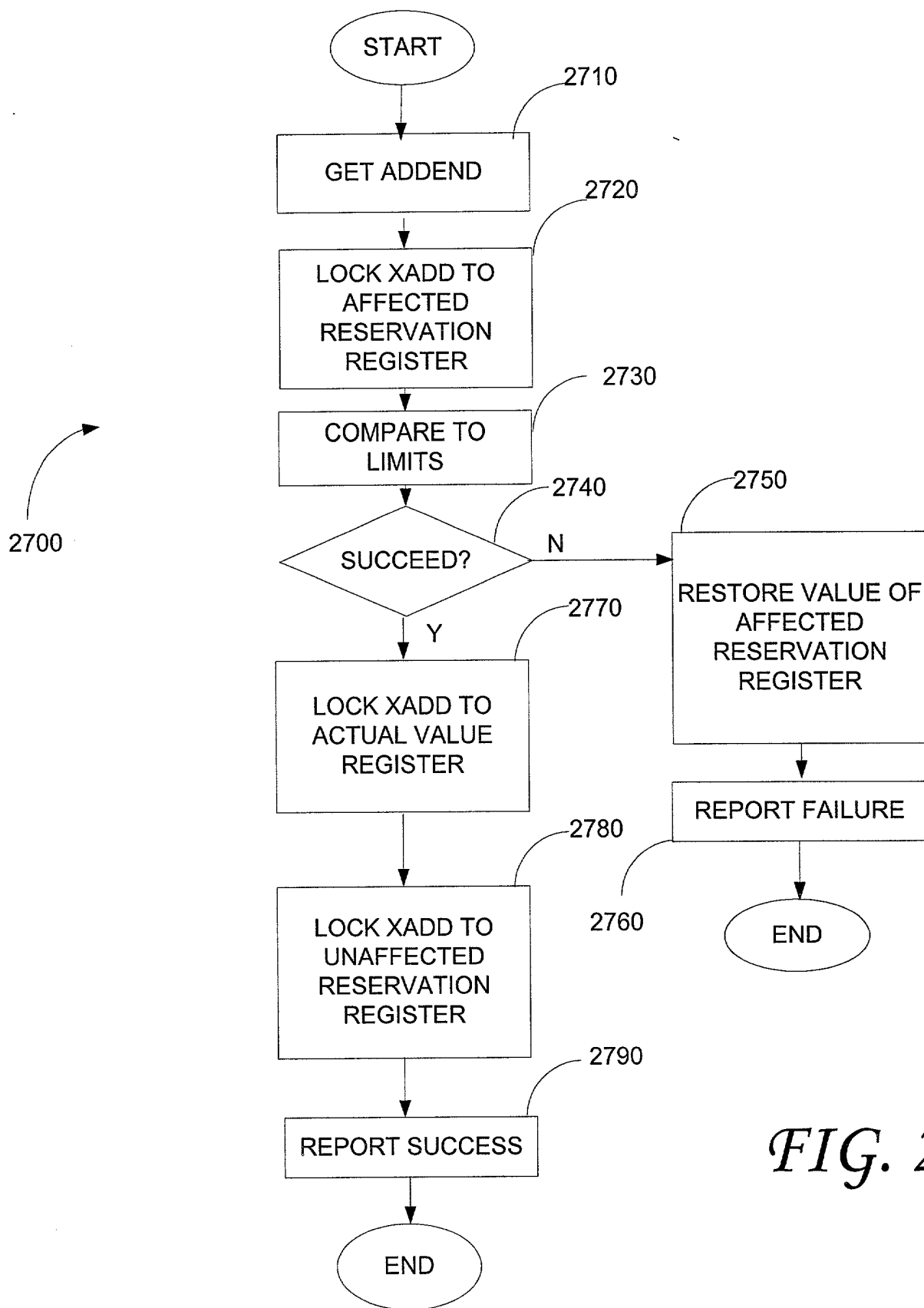


FIG. 27